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Do We Trust the Technology? People? or Both? Ruminations on Technology Trust

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ABSTRACT

While an increasing number of trust studies examine technological artifacts as trust recipients, we still lack a basic understanding of how technology trust "fits" into the broader nomological net espoused by trust theories. This paper adopts a measure of technology trust comprised of IT-specific dimensions. We then articulate a research model that separates technology trust from interpersonal trust (i.e., trust in humans). Our empirical study provides evidence that even in a context where technology fully replaces human interaction, technology trust does not substitute for interpersonal trust. Rather, our findings suggest that technology trust complements interpersonal trust as a predictor of intention and behavior.

Keywords: Technology trust, Interpersonal trust, Purchase intention

INTRODUCTION

As we now rely on information technology (IT) more than ever before, technology trust plays an increasingly important role in people's decisions and behaviors. Technology trust refers to people's beliefs regarding the trustworthiness of particular information technology to perform a task (McKnight 2005; Ratnasingam et al. 2003). Previous research has investigated technology trust (Ratnasingam 2005) and used existing trust theories to explain its influence and guide how to operationalize the construct (Wang et al. 2005b). Empirical evidence suggests that technology trust significantly relates to users' behaviors (Li et al. 2008; Ratnasingam et al. 2003; Wang et al. 2005b).

Although empirical evidence supports technology trust's influence, at least two issues remain critical for advancing the technology trust research. One is with regards to the conceptualization and measurement of technology trust – how should technology trust be defined and measured? Using traditional definitions of trust, Wang and Benbasat (2005b; 2008) operationalized trust in decision support technologies as a function of users' beliefs in the systems' competence, benevolence and integrity. They could do so because the decision support technology was personified as a "virtual advisor". When one can personify a technology, it may be appropriate to transfer traditional ways of measuring trust in people to technologies. However, it is often inappropriate or problematic to characterize technological artifacts as "honest" or capable of "keeping in mind my interests". Hence, we believe that there is a need to develop a standard, theoretically grounded definition and measure of technology trust.

A second issue necessary for extending technology trust research is deepening theoretical understanding of technology trust's role in the nomological net leading to intention and behaviors. When technology completely replaces human labor and presence, one may speculate that technology trust should substitute interpersonal trust as a driver of individuals' behavior. The logic is that it is difficult, if not impossible, to form trust towards human actors who are not visibly or physically present in a relationship. For example, when individuals withdraw money from a stand-alone ATM with no human interaction and assistance, they

have nobody to trust except the machine to complete the transaction. On the other hand, technology is made to support human activities. It is developed, operated and managed by people. So one might argue that we still need faith in people to use technology, and that our trust in technology contributes to the trust in people in building a relationship. Extending our example, individuals' use of an ATM may be driven not only in the machine's ability to complete the transaction, but also their faith in the bank and its employees to properly record transactions. To reconcile the different roles of technology, people, and institutions as drivers of behavior, it is necessary to further consider the relationship between technology trust and traditional trust as well as their relative influences on individuals' behaviors.

Hence, the purpose of this study is to shed light on the nature and role of technology trust. We examine trust in technology in the context of B2C Internet-based store that lacks a physical presence and offers customers minimal contact with human sales representatives. Such an Internet-based store is useful for our purposes because it limits confounds of technology trust with interpersonal trust in the study by minimizing human contacts. In addition, to eliminate other possible confounds in individuals' perceptions, we focused on initial trust of new customers. We use this context to examine the following research question: When technology replaces human actors, does technology trust substitute interpersonal trust in determining customers' web behaviors?

This paper unfolds as follows. We begin by discussing the nature of technology trust and propose a set of beliefs germane to measuring trust in technology. Next, we develop our research model, describing the relationship between technology trust and interpersonal trust and assessing their influences on purchase intention. Then, we describe our study and findings. This paper concludes with implications and future directions.

TECHNOLOGY TRUST

Trust research largely focuses on interpersonal relationships. Mayer et al. (1995) defined trust as "*the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party*" (p712). The party who grants trust is usually referred to as trustor, while the party who receives trust is referred to as trustee or object of trust.

Information Systems (IS) researchers apply the concept of trust to technology contexts. Early studies examined trust between human actors in IS enabled environment (e.g., trust in virtual team, online customers' trust in e-vendors) (Jarvenpaa et al. 1999a; McKnight et al. 2002). More recent studies have examined technology as trust recipient and studied the implications of trust in technology (McKnight 2005; Ratnasingam et al. 2003). Empirical evidences show that trust in diverse technological artifacts such as e-commerce websites (Wakefield et al. 2004), recommendation agents (Wang et al. 2005b) and organizational information systems (Li et al. 2008) exert a noteworthy effect on users' behaviors.

Studies of technology trust are rooted in theories of social responses toward computing (Nass et al. 2000; Reeves et al. 1996), which posit that people treat computers and computer-based technologies as social actors and apply social rules to them. As a result, many studies simply extend theories of interpersonal trust and transfer models and definitions from the interpersonal context to the technology context. For example, consistent with interpersonal trust research, IS trust research defines technology trust as people's multi-dimensional beliefs (i.e., benevolence, competence, and integrity) regarding the trustworthiness of particular technological artifact in performing important tasks (Komiak et al. 2006; Wang et al. 2005b). However, social actors and information technologies' characteristics differ. For example, even if personified as social actors, technologies lack volitional control and moral capability of human beings. Due to their different characteristics, McKnight (2005) argued that interpersonal trust and technology trust should be considered a function of different attributes that distinguish between the "social" and "technology" characteristics of humans and computers.

Because trust in IT may differ from trust in humans, we turn to adopting a set of attributes that are unique to technology trust (McKnight 2005; McKnight and Thatcher 2006). Since attributes requiring moral capability and volitional control may not be easily ascribed to all IT artifacts, we argue that beliefs about benevolence and integrity are not essential dimensions of technology trust. Rather, we believe that technology trust rests on beliefs in competence. When technology enables performing necessary tasks, people are most concerned with whether that technology has the functionality and capability required to complete a job. Thus, we adapt belief in competence into technology trust and call it belief in capability of the technology. In addition, if asked to use a technology, people want to make sure it performs in a normal and reliable way, without many errors, delays, conflicts with other functions, or unexpected results. People trust a technology if they believe it performs reliably. Hence, we assert that belief in reliability of a technology is an important dimension of technology trust. In summary, we propose that technology trust is a function of beliefs regarding two generalizable attributes of all technologies – belief in capability and belief in reliability.

In addition to having unique sources, technology trust and interpersonal trust may exert different influences across contexts. Often, technology is used to complete a task in behalf of human actors or to mediate interactions and relationships across spatial and temporal boundaries. With little or no human presence, a trustor may not be clear about who is the trusting partner. For example, when shopping in a pure Internet-based store or using a product recommendation system, customers may not see or speak with human transaction partners. The spatial and temporal separations between the two transaction parties usually create additional uncertainty. In such contexts, some speculate that interpersonal trust's influence becomes less salient and technology trust will become a critical enabler of relationship building as well as a predictor of trustors' behaviors. Relying on similar logic, many studies have exclusively examined technology trust in technology-mediated contexts (Komiak et al. 2006; Wakefield et al. 2004; Wang et al. 2005b). On the other hand, Ratnasingam and Pavlou (2003) argued that technology trust should not substitute the interpersonal trust, rather they coexist. This stance has also been echoed in other studies and conceptual trust models (Corbitt et al. 2003; Kim et al. 2005; Lee et al. 2001). Given the uncertainty about how technology trust "fits" into models predicting behavior, we believe it is important to conduct theoretical and empirical studies that properly operationalize technology trust and examine the relative impacts of trust on IT-related intentions and behaviors.

MODEL AND HYPOTHESES DEVELOPMENT

B2C Internet-based store provides a good context for studying the relationship between interpersonal trust and technology trust. Prior trust research differentiates between initial trust and developed trust in e-commerce environment. In a new e-commerce context, initial trust involves consumers granting trust towards unfamiliar trustees or objects about which they lack meaningful information or affective bonds (McKnight et al. 2002). When knowledge increases through interactions, experience and other sources, consumers' trust may evolve and demonstrate different relationships to intentions and behaviors. Although technology trust is germane to both initial and developed relationships, it is necessary to focus on a specific context to investigate trust. Hence, we direct our attention to consumers' initial trust in a new and unfamiliar pure Internet-based store in order to examine the relative influence of technology trust and interpersonal trust on purchase intention.

Figure 1 presents the research model, including trust in merchant (a form of interpersonal trust) and trust in website (a form of technology trust), and trust in the 3rd-party seal programs (as a control variable) as predictors of purchase intention (i.e., customers' willingness to complete transactions with an Internet-based store). Next, we turn to developing these relationships in greater detail.

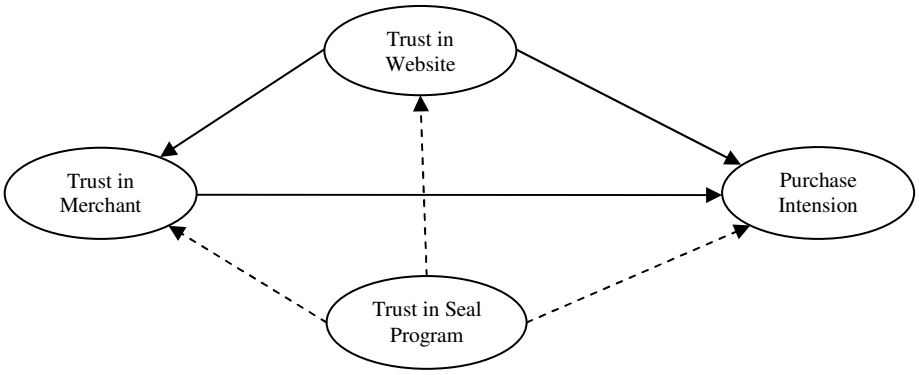

Figure 1: Research Model

Trust in Merchant

Trust in merchant is a form of interpersonal trust. It refers to customers' beliefs regarding the trustworthiness of the transaction partner. Although consumers may lack the ability to observe an Internet-based merchant, they still need to trust it to make a transaction (Jarvenpaa et al. 1999b). Prior online trust studies suggest that consumers' trust towards Internet merchants are based on perceptions of the visible components (e.g., the website) in the transaction (Gefen et al. 2003) and institutional assurance (e.g., the 3rd-party seal programs) (McKnight et al. 2002; Pavlou et al. 2004).

Following interpersonal trust research (Mayer et al. 1995; McKnight et al. 2002), we define trust in merchant as consumers' perceptions of a merchant's competence, integrity and benevolence. To become a paying customer, a consumer must believe that this merchant is knowledgeable about the market and capable to consummate the transactions; she is honest and keeps her promises; and she cares her customers and would act in their best interests. Empirical studies found that trusting beliefs in competence, benevolence and integrity of a merchant affect customers' attitude, purchase intention and actual purchase behavior towards this merchant (Gefen et al. 2003; Jarvenpaa et al. 1999b; McKnight et al. 2002). Hence, consistent with prior IS trust literature, we propose a positive relationship between customers' trust in merchant, operationalized as trusting beliefs in merchant's competence, benevolence and integrity, and their purchase intention. That is,

H1: Trust in merchant positively affects purchase intention.

Trust in Website

A website is a technological artifact that an Internet-based merchant uses primarily to complete online transactions. Prior research, thus, viewed websites as part of Internet-based stores and didn't examine trust in them as an independent construct (McKnight et al. 2002). As web technology has advanced, additional features and applications have been integrated into e-commerce websites. For example, many websites now provide features like product recommendation, comparison and review. These features enrich a consumer's shopping experience beyond transaction fulfillment. Other web applications are used to enhance the after-sale experience such as order tracking and online help center. With these features and applications, the website now do more than a traditional merchant can do in a physical store. As a result, customers' trusting perceptions of the website may be distinct from those of the merchant, and become a critical determinant of their online shopping behaviors (Ratnasingam et al. 2003).

Trust in website refers to customers' beliefs regarding the trustworthiness of the website, the technological artifact that processes transaction on behalf of the merchant. We believe distinguishing between trust in merchant and trust in website will provide additional insights to our understanding of technology trust. As

discussed earlier, technology trust is different from interpersonal trust in terms of the trusting beliefs. In this study, we operationalize trust in website with customers' beliefs in capability and reliability of the website (McKnight 2005). Trusting belief in web capability means the website is capable of completing the transactions. Trusting beliefs in reliability means the website can facilitate shopping and complete transactions without frequent delays, errors, or unexpected results.

Websites play two distinct roles in e-commerce – to perform transactions and to represent merchants. Accordingly, we propose two influences of trust in website on purchase intention. First, trust in website reflects consumers' beliefs that the website can consummate online transactions, which induce consumers' purchase intention (Corbitt et al. 2003; Wakefield et al. 2004). For example, when a website provides a comparison chart of LCD vs. Plasma televisions, a search tool to help customers locate their favorite television brands and sizes, a simple, secured checkout process with choices of payment, and timely and accurate updates of delivery, consumers are more likely to extend trust to this website and complete a television purchase. Thus we propose,

H2: Trust in website positively affects purchase intention.

Secondly, a website is a representation of the merchant. Since consumers lack the ability to directly observe an Internet-based merchant, they make a trust decision about the merchant based on their observations on the website (Corbitt et al. 2003; Wang et al. 2005a). A website with advanced technical features, decent graphic design, accurate and updated information, and clearly-stated policies suggests to the consumers that the merchant is dedicated, responsible, and cares about the customers. Thus, we propose an indirect relationship between trust in website and purchase decision – consumers' trust in website promotes their trust in merchant, which then affects purchase intention (i.e., H1).

H3: Trust in website positively affects trust in merchant.

Control Variable: Trust in Seal Programs

Prior trust research has defined institutional trust as beliefs in the structural conditions, which is distinct from trust in specific objects (McKnight et al. 2002). For example, one could trust another person because the trustee has desirable trusting attributes (interpersonal trust), or it could be because structural assurances such as contracts, regulations or guarantees are in place (institutional trust). Similarly when examining trust in a technology, we should distinguish trust in the technology itself from trust fostered by institutional mechanisms. Thus, to parse out the influence of institutional trust, we include a control variable in our research model. The eCommerce Trust Study [1] delivered by Cheskin Research and Studio Archetype/Sapient disclosed that 3rd-party seal programs such as VeriSign, BBB Online and TRUSTe have been rated as the tops in a list of trust symbols that increase people's trust on a Website. So specifically in this study, we include trust in seal programs as the control variable. In the model, we include a direct path from trust in seal programs to purchase intention to separate the impact of trust because of institutional assurance with those because the objects possess desirable trusting attributes. Prior literature of institutional trust (McKnight et al. 2002; Pavlou et al. 2004) suggests that trust in seal programs also has indirect impacts on customer behaviors. In e-commerce practice, VeriSign program is used to ensure the web security and performance, while BBB Online and TRUSTe are used to ensure customer privacy and merchant reliability in transactions. Thus, we also include two paths from this control variable to trust in merchant and trust in website. While we acknowledge that institutional trust is a broad concept, we hope that including a specific, well-established form of institutional trust allows us to distinguish between the influences of technology trust and those of institutional mechanisms.

METHODOLOGY

1 http://www.sapient.com/cheskin/index.html

Procedure

Data collected using a survey was used to test the research model. A three-step procedure was used to collect data: a pre-survey, an online task, and a post-survey. Demographic information and control variable were measured in the pre-survey. Then, subjects were asked to shop a gift on the website, Overstock.com. The website was selected by the researchers because (1) it was relatively new at the study time; and (2) it is a pure Internet-based store with no physical presence. Subjects who reported past experience with Overstock.com were excluded from the dataset to make sure initial trust was examined in this study. After the completion of the task, subjects completed a post-survey, measuring trust in merchant, trust in website and purchase intention.

Measures

Scales in this study were adopted from existing trust research. Each item was measured using a 7-point Likert-type scale (1=strongly disagree, 7=strongly agree). Purchase intention was a first-order, reflective construct. The measurement items were adopted from Pavlou and Gefen (2004). We operationalized the three forms of trust as second-order, formative constructs because they were defined as sets of trusting beliefs which do not necessarily co-vary. For example, an honest person is not necessarily competent to complete a task. For each first-order trusting belief, we used reflective items. For trust in merchant, we adopted McKnight et al.'s (2002) trusting belief scales on competence, benevolence, and integrity. For trust in website, we adopted scales of beliefs in capability and reliability developed by McKnight and Thatcher (2006). For trust in seal programs, we measured subjects' beliefs in effectiveness, benevolence and integrity of the assurance providers. The measurement scales were adopted from Pavlou and Gefen (2004) and McKnight et al. (2002).

Samples

Subjects were recruited from the undergraduate business programs of three United States public universities. A pilot study was conducted in one of the universities to validate the instrument and the study design. Full data collection was then conducted at the three universities with 281 new subjects. We excluded 13 subjects due to missing data and 44 subjects with prior experience with OverStock.com. The final sample includes 224 respondents. The respondents are mostly young and with solid computer and Internet knowledge. They also have online shopping experience in the past two years. The sample characteristics are similar to characteristics of consumers examined in prior online research and should be generalizable to the broader populations (Gefen et al. 2003).

DATA ANALYSIS

In this study, Partial Least Square (PLS) technique was used for data analysis. The PLS technique is generally recommended for theory development. It is also recognized for its ability to handle both reflective and formative constructs (Chin 1998). So it well suits our theoretical exploration and research design. In the following sections, we describe our data analysis process, including measurement validation and structural model testing.

Measurement Model

In the measurement model, we included purchase intention and the first-order dimensions for the three trust constructs. All constructs were measured with three or four direct, reflective indicators. The validity of the measurement model was evaluated based on the following criteria: (1) indicator loadings are greater than 0.7 and p-values are below 0.01(Fornell et al. 1981); (2) reliability scores are greater than 0.7 (construct validity) (Nunally et al. 1994); (3) indicators load much higher on their hypothesized constructs than on other constructs, and the square root of each construct's Average Variance Extracted (AVE) is larger than its correlations with other constructs (convergent and discriminant validity) (Agarwal et al. 2000). The

measurement model results verified that our measurement scales fulfill all these criteria, and thus are valid and reliable. Detailed results are presented in the Appendix.

Structural Model

The structural model included purchase intention with direct, reflective indicators, and three trust constructs with their first-order trusting beliefs as formative indicators. Factor scores derived from the measurement model were used as the formative indicators. Table 1 presents the weights of the formative indicators for the three trust constructs, which represent the significance of each trusting belief in predicting trust in the object. All indicators had significant weights on the corresponding constructs. Specifically web capability and reliability are found to be strong belief elements in measuring trust in website (p<.001).

Constructs	1st-Order Indicators	Weights
Trust In Merchant	MCom	.536***
	MBen	.173*
	Mint	.391***
Trust in Web site	WCap	.336***
	WRel	.722***
Trust in Seal Programs	SlEff	.426**
	SlBen	.288*
	SlInt	.408**

*** p < .001; ** p < .01; * p < .05

Table 1 Weights of Formative Indicator

With valid formative trust indicators, we then examined the structural model in terms of explained variances and path coefficients (Figure 2). About 35.8% of the variance in purchase intention and 61.8% of the variance in trust in merchant are explained by this model. The research model explains significant variances in the constructs of interest.

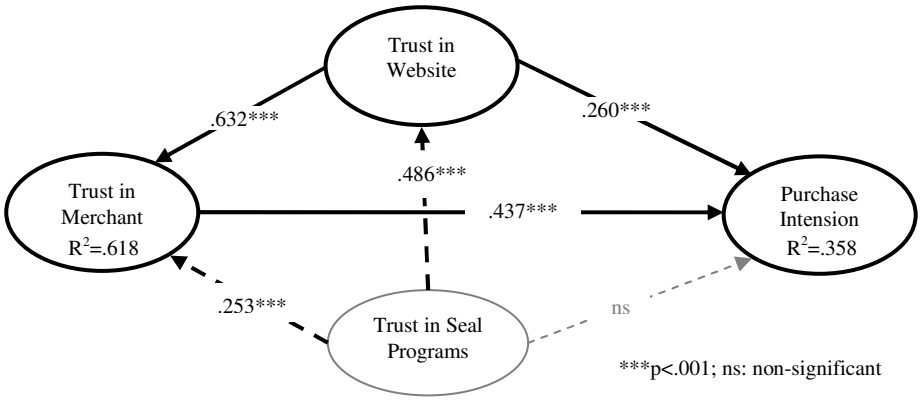

Figure 2: PLS Structural Model

Most paths in the model are significant and support our hypotheses. Trust in merchant and trust in website have positive coefficients on purchase intention after we controlled out the impact of trust in seal programs, which support H1 and H2 respectively (H1:.437, p <.001; H2:.260, p<.001). The path from trust in website to trust in merchant is also positive, which supports H3 (H3:.632, p<.001). The control variable – trust in seal programs doesn't have significant path coefficient to purchase intention. But it has significant paths to trust in merchant and trust in website (p<.001).

DISCUSSION

Our results support the proposed model. First, they confirm prior research that technology trust is a critical factor in people's decisions and behaviors. Even after we controlled the impacts of traditional trust like interpersonal trust and institutional trust, technology trust still plays a significant role in determining customers' purchase intention. Second, although we chose a context where technology fully replaced human presence, the study results show that technology trust doesn't substitute for interpersonal trust. Instead, technology trust complements interpersonal trust. Finally, with the proposed belief set of technology trust and the inclusion of the control variable, we clarified the nature of technology trust. Our results verified that people's beliefs in technical capability and reliability are a reasonable, standard way to measure technology trust. In addition, our analysis suggests that technology trust is distinct from institutional trust. People form technology trust because they believe the technology possesses desirable attributes to complete a task or perform a responsibility. The institutional mechanisms (i.e., trust in seal programs) are distinct sources that support technology and interpersonal trusts.

This study provides implications for future trust research. Although there have been increasing number of studies on technology trust, they were mostly derived from the interpersonal point of views. This study proposes a different method to operationalize and measure technology trust. This method suggests turning from using trusting attributes requiring intentional and volitional controls of the trusting object to focusing on technical attributes such as capability and reliability. We believe that capability and reliability can be used for most technologies without presenting the conceptual difficulties of anthropomorphism. Also because prior research examined technology trust following traditional trust theories and methods, we didn't have a common understanding on the relationship between technology trust and traditional trust. In this study, we modeled technology trust separately from interpersonal trust and institutional trust. Our empirical study verified that technology trust plays a distinct and significant role than the traditional trust. It interacts with traditional trust and contributes to the overall trust needed to build a relationship. Overall, this study provides additional insights into the technology trust research.

CONCLUSION

This paper sheds light on the nature and role of technology trust. Through our empirical study, we illustrate a new approach to operationalize technology trust and investigate its interrelationships with interpersonal trust as well as their relative impacts on purchase intentions. The study has two limitations on its generalizability – the student sample and the context. Although we believe students are valid for studying online consumer behavior, a broader sample which captures diverse age groups, occupations and experiences may yield different insights. Also, we studied a pure Internet-based store and focused on initial trust as a means to study specific forms of trust. Future research should examine the interrelationships among forms of trust in different contexts to provide further evidence of the validity of our results.

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APPENDIX

PLS Confirmative Factor Analysis

Constructs		Items	1	2	3	4	5	6	7	8	9
Purchase Intention	1	Intent1	0.95	0.48	0.49	0.47	0.49	0.48	0.23	0.24	0.18
		Intent2	0.95	0.54	0.55	0.55	0.56	0.54	0.31	0.28	0.25
		Intent3	0.96	0.49	0.51	0.49	0.51	0.48	0.23	0.22	0.16
		Intent4	0.91	0.41	0.47	0.41	0.40	0.36	0.18	0.19	0.09
Trust in Merchant	2	MCom1	0.46	0.87	0.60	0.58	0.59	0.66	0.32	0.33	0.41
		MCom2	0.51	0.96	0.68	0.63	0.67	0.69	0.36	0.39	0.39
		MCom3	0.46	0.94	0.71	0.68	0.60	0.64	0.38	0.45	0.45
		MCom4	0.46	0.93	0.70	0.64	0.56	0.62	0.40	0.43	0.45
	3	MBen1	0.50	0.71	0.93	0.75	0.52	0.57	0.44	0.48	0.45
		MBen2	0.46	0.69	0.92	0.70	0.50	0.59	0.39	0.45	0.47
		MBen3	0.53	0.63	0.92	0.75	0.41	0.52	0.36	0.42	0.39
	4	MInt1	0.48	0.63	0.75	0.91	0.42	0.56	0.41	0.39	0.43
		MInt2	0.49	0.68	0.74	0.95	0.53	0.64	0.47	0.43	0.47
		MInt3	0.42	0.62	0.70	0.90	0.47	0.66	0.44	0.42	0.47
		MInt4	0.49	0.61	0.74	0.94	0.48	0.61	0.47	0.44	0.50
Trust in Website	5	WCap1	0.49	0.64	0.50	0.51	0.95	0.70	0.36	0.38	0.38
		WCap2	0.49	0.64	0.49	0.49	0.97	0.75	0.34	0.34	0.36
		WCap3	0.52	0.64	0.50	0.50	0.97	0.74	0.32	0.34	0.33
	6	WRel1	0.48	0.68	0.61	0.66	0.68	0.94	0.43	0.40	0.43
		WRel2	0.47	0.66	0.59	0.64	0.69	0.95	0.44	0.39	0.44
		WRel3	0.42	0.64	0.50	0.57	0.73	0.90	0.38	0.33	0.34
Trust in Seal Programs	7	SlEff1	0.19	0.35	0.37	0.42	0.29	0.35	0.91	0.61	0.61
		SlEff2	0.28	0.34	0.36	0.45	0.35	0.42	0.93	0.62	0.58
		SlEff3	0.26	0.38	0.42	0.47	0.32	0.42	0.93	0.66	0.62
		SlEff4	0.20	0.40	0.42	0.47	0.33	0.48	0.92	0.64	0.62
	8	SlBen1	0.23	0.42	0.46	0.43	0.36	0.36	0.68	0.93	0.71
		SlBen2	0.22	0.36	0.41	0.40	0.30	0.38	0.59	0.91	0.64
		SlBen3	0.23	0.40	0.46	0.42	0.34	0.36	0.59	0.89	0.66
	9	SlInt1	0.19	0.40	0.46	0.46	0.35	0.39	0.58	0.64	0.89
		SlInt2	0.15	0.42	0.42	0.46	0.34	0.42	0.59	0.66	0.93
		SlInt3	0.17	0.42	0.43	0.44	0.34	0.38	0.63	0.68	0.94
		SlInt4	0.15	0.43	0.42	0.47	0.32	0.39	0.59	0.68	0.88

Descriptive Analysis, Reliabilities, Correlations and Square Roots of AVEs

	Means	Standard Deviation	Composite Reliability	Cronbach's Alpha	1	2	3	4	5	6	7	8	9
1.Intent	5.04	1.47	.97	.95	**.94**								
2.MCom	5.51	1.07	.96	.94	.51	**.92**							
3.MBen	5.02	1.18	.94	.91	.54	.73	**.92**						
4.MInt	5.14	1.08	.96	.94	.51	.69	.79	**.92**					
5.WCap	5.61	1.17	.97	.96	.52	.66	.52	.52	**.96**				
6.WRel	5.48	1.06	.95	.92	.49	.71	.61	.67	.76	**.93**			
7.SlEff	4.83	1.27	.96	.94	.25	.40	.43	.49	.35	.45	**.92**		
8.SlBen	5.13	1.16	.93	.89	.25	.43	.49	.46	.36	.40	.68	**.91**	
9.SlInt	4.96	1.10	.95	.93	.18	.46	.47	.51	.37	.43	.66	.74	**.90**